

REMARKS

Claims 1-18 are pending. Claims 6-11 have been withdrawn from consideration. Claims 1, 12 and 13 have been amended and claims 17 and 18 added. Reconsideration and allowance in view of the above amendments and following remarks are respectfully requested.

Specification

The Office Action objects to claims 6-9 because the status was incorrectly identified. Applicants have noted that claims 6-9 have the status of “withdrawn” and will accordingly identify them as such in future Responses if necessary. Accordingly, withdrawal of the objection is respectfully requested.

The Office Action also objects to the Response filed January 23, 2006 under 35 U.S.C. §132(a) alleging it adds new matter. Specifically, the Office Action asserts that the term “ohmic contact” in claims 1, 12 and 13 is not supported by the disclosure. Applicants have amended the claims to recite “physical contact” instead of “ohmic contact” to address the Examiner’s concerns. Accordingly, withdrawal of the objection is respectfully requested.

§112, First Paragraph

The Office Action rejects claims 1, 2 and 13 under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. Specifically, the Office Action asserts that the term “ohmic contact” is not described in the specification for one of ordinary skill to detect applicant’s had possession of the claimed invention. This rejection is moot as the term “ohmic contact” is no longer present in the claims. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Prior Art Rejection

The Office rejects claims 1, 13, 14 and 16 under 35 U.S.C. §103(a) as being unpatentable over Kuroda (US 5,487,029) in view of Clemons, (US 4,599,709); claims 2-5 under 35 U.S.C. §103(a) as being unpatentable over Clemons, Kuroda and Dierke; and claims 12 and 15 under 35 U.S.C. §103(a) as being unpatentable over Kuroda, Clemons and Seyyedy (US 5,969,380). These rejections are respectfully traversed.

Claims 1, 12 and 13 recite, *inter alia*, each word line in a segment is differentiated based on the position of the word line within the segment, each word line in the segment being adjoined to a separate bit line, where each separate bit line assigned to a segment is connected with a different associated sensing means, such that a word line of the same position within each segment is selected within each segment, each word line of the same position being sensed at the same time by said respective different associated sensing means, thus enabling simultaneous connection of all memory cells assigned to a word line on a segment.

Applicants have amended the independent claims to clarify the distinguishing features from Kuroda and Clemons. The Examiner relies upon Clemons to teach the above simultaneous accessing of memory cells assigned to a word line on a segment. In Clemons, each bite block is separated based on the bit lines. Each bit line is accessed using one of transistors T200 through T203 as illustrated for bite block one. The addressing of the voltage on the bit lines to specific sense amplifiers is not based on segmentation of the word lines. This is further noticed in Fig. 3 in which each segmented bit lines, referred to as bite block one through eight, is provided and connected to the IO switches. In segmenting based on the word lines, as in embodiments of the present invention, all bit lines across the entire array associated with those word line segmentations can be sent simultaneously at the associated sensing means. As illustrated in Fig. 3, only the specific bit lines associated with a particular bite block can simultaneously be sensed. This is accomplished for each bite block. Fig. 3 illustrates 4 bit lines and thus only four bit lines can be accessed at one time. In contrast, if Clemons was segmented based on the word lines then all eight crossings of the bit lines with the word lines corresponding to bite blocks 1-8 would be

simultaneously sensed for each word line in the word line segmentation. This is not the case in Clemons as discussed above. Clemons allows the parallel access of all memory cells on a given word line in a block in a bitwise arrangement with the primary goal of simultaneously being able to provide access to a corresponding number of spare memory cells and to insert spare bit lines or memory cells in the appropriate memory block via fusible links.

In applicant's invention, the word lines are segmented because of the unique nature posed by the passive matrix memories as discussed above. By segmenting the word lines, which allows for selection of all bit lines associated with those word lines across each segment, each bit line is then associated with a specific sensing amplifier and read out. In contrast, Clemons relies on accessing via the transistors for a given byte block.

Further, Applicants respectfully submit that each of references Clemons and Kuroda teach an active matrix memory, which is contrary to the passive memory of the present invention. Although this issue has been discussed in detail in previous responses, there are fundamental differences between passive and active matrices which create various characteristics unique to both types of matrices and therefore certain features of an active matrix is not compatible with a passive matrix and vice versa.

Applicants have amended the claims to recited bit lines and word lines which form the memory cells as being in physical contact with each other. This is a characteristic of passive matrices which cannot be applied to active matrices. Applicants note that in a passive matrix there are no switching elements, for example, switching transistors, which are necessarily part of active matrices for each memory element. This is to say that all memory cells are permanently in physical contact with the electrodes. In active matrices all memory cells are not permanently in physical contact with the electrode as each memory requires the activation of a transistor to obtain physical electrode contact.

Thus, applicants respectfully submit that the problem remains of Kuroda and Clemons being associated with active passive matrices in which continuous physical contact between the

word lines and bit lines is not taught. Further, Clemons does not teach or suggest word line segmentation as claimed, let alone to be implemented in a passive matrix memory.

Therefore, the combination of Kuroda and Clemons fails to teach or suggest each and every feature of claims 1, 12 and 13 as required. Further, Dierke and Seyyeddy fail to remedy the deficiencies of Kuroda and Clemons. Accordingly, applicants respectfully submit that neither Kuroda, Clemons, Dierke or Seyyeddy alone or in combination teach or suggest the above claimed limitations. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

CONCLUSION

In view of the above amendment, applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings Reg. No. 48,917 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Application No. 10/088,913
Amendment dated December 27, 2006
After Final Office Action of

Docket No.: 3672-0144P

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: December 27, 2006

Respectfully submitted,

By 

Michael K. Mutter

Registration No.: 29,680

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant